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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/417,979	10/13/1999	LINUS TORVALDS	TRANS22	8219

7590 05/13/2003

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EXAMINER
ELLIS, RICHARD L

ART UNIT	PAPER NUMBER
2183	5

DATE MAILED: 05/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)	
09/417,979	Torvalds et al.	
Examiner	Group Art Unit	
Richard Ellis	2183	

--The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address--

Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE 3 (Three) MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) Months from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

☐ Responsive to communication(s) filed on _____.

☐ This action is FINAL

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 1-15. is/are pending in the application.

☐ Of the above claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-15. is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119(a)-(d)

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

Attachment(s)

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 4.

☒ Notice of References Cited, PTO-892

☒ Notice of Draftsperson's Patent drawing Review, PTO-948

☐ Interview Summary, PTO-413

☐ Notice of Informal Patent Application, PTO-152

☐ Other _____

Office Action Summary

1. Claims 1-15 are presented for examination.

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The current title is imprecise.

3. The disclosure is objected to because of the following informalities: On page 9 of the specification there is a crossreference to a related application, but said related application is not identified by US Patent application serial number. Appropriate correction is required.

4. Claim 7 is rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As written, claim 7 is dependent upon itself, and therefore, the claim is technically incomplete. For the purposes of rejection herein, it will be assumed that claim 7 was intended to have been made dependent from claim 1.

5. The following is a quotation of the appropriate paragraphs of 35 USC § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a)shall have the effects for the purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-15 are rejected under 35 USC 102(e) as being clearly anticipated by Lethin et al., U.S. Patent Application Publication 2002/0,147,969.

Lethin et al.taught (e.g. see figs. 1-35) the invention as claimed (as per claim 1), including a data processing ("DP") system comprising:

A) a method of transferring between types of conversion processes in a computer which converts instructions from a target instruction set to a host instruction set (paragraph 1) comprising the steps of;

B) executing code morphing software (fig. 1) including an interpreter (110) and a translator (104) to generate host instructions from target instructions (paragraphs 54 and 64);

C) detecting at intervals whether the interpreter or the translator is operating (paragraphs

626-627);

D) increasing a count if the interpreter is operating and decreasing the count if the translator is operating (fig. 29, "requests - completions", paragraph 627, the interpreter sends "requests", and additional requests increase the value of "requests - completions", the compiler sends completions, and additional completions reduce the value of "requests - completions");

E) changing from interpreting to translating a sequence of target instructions when the count reaches a selected maximum (fig. 29, "Request rate procedure", "threshold", paragraph 628).

7. As to claim 2, Lethin et al. taught that the interval was a selected time period (paragraph 625, a "rate" is an amount of occurrence over a unit of time).

8. As to claim 3, Lethin et al. taught that the interval was a selected number of executed target instructions (paragraph 626).

9. As to claims 4 and 5, Lethin et al. taught that the amount the count was increased at interpretation or decreased at translation was selectable (paragraph 626).

10. As to claim 6, Lethin et al. taught counting each instance in which a sequence of instructions was interpreted (paragraph 627), and changing from interpreting to translating a sequence of target instructions when the count of instances reaches a selected maximum (paragraph 628).

11. As to claim 7, Lethin et al. taught gathering statistics regarding each sequence of instructions (fig. 3, 112), and optimizing translation of a sequence of instructions based on statistics gathered (fig. 2, 118).

12. As to claim 8, Lethin et al. taught that the step of changing from interpreting to translating a sequence of target instruction when the count reaches a selected maximum included translation with limited optimization (paragraphs 56-57), and testing while executing a sequence of target instructions translated with limited optimization to determine whether the sequence should be further optimized (paragraph 57), and retranslating and further optimizing

in response to the testing (paragraph 57, replacement of optimized code with newly optimized code based on a more complete flow graph is a further optimization).

13. As to claim 9, Lethin et al. taught that the step of testing which executing a sequence of target instruction translated with limited optimization includes counting each instance in which a sequence of instructions is executed (paragraph 58) and, the step of retranslating and further optimizing occurs when the count of instances reaches a selected maximum (paragraph 58).

14. As to claim 10, Lethin et al. taught a method of optimizing execution by a computer which dynamically converts instructions from a target instruction set to a host instruction set (paragraph 1) comprising the steps of;

A) providing a plurality of instruction conversion processes each providing a different level of optimization for converted instructions from a target instruction set to a host instruction set (fig. 1, 110, 104);

B) providing means for determining dynamically which conversion process best converts each sequence of instructions (fig. 2, 114, fig. 12, 114), and,

C) converting a sequence of instructions using a conversion process determined to best convert the sequence of instructions (fig. 1).

15. As to claim 11, Lethin et al. taught that the conversion processes included interpretation (fig. 1, 110) and translation (fig. 1, 104).

16. As to claim 12, Lethin et al. taught that the conversion processes include interpretation (fig. 1, 110), translation with minimal optimization (paragraph 56), and translation with advanced optimization (paragraph 57).

17. As to claim 13, Lethin et al. taught that the means for determining dynamically which conversion process best converts each sequence of instructions depends on the number of times each sequence is converted by a particular conversion process (fig. 29).

18. As to claim 14, Lethin et al. taught that the means for determining dynamically which conversion process best converts each sequence of instruction depends on the ratio of the number of times on conversion process is run compared to another conversion process (fig. 29,

"Comparison procedure").

19. As to claim 15, Lethin et al. taught that the means for determining dynamically which conversion process best converts each sequence of instructions depends on the number of times each sequence is converted by a particular conversion process (fig. 29, "completions", "requests"), and depends on the ratio of the number of times one conversion process is run compared to another conversion process (fig. 29, "Comparison procedure").

20. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

21. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) days from the mail date of this letter. Failure to respond within the period for response will result in **ABANDONMENT** of the application (see 35 USC 133, MPEP 710.02, 710.02(b)).

22. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Richard Ellis whose telephone number is (703) 305-9690. The Examiner can normally be reached on Monday through Thursday from 7am to 5pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Eddie Chan, can be reached on (703) 305-9712. The fax phone numbers for this Group are: After-final: (703) 746-7238; Official: (703) 746-7239; Non-Official/Draft: (703) 746-7240.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Richard Ellis
Primary Examiner
Art Unit 2183

Richard Ellis
May 8, 2003